

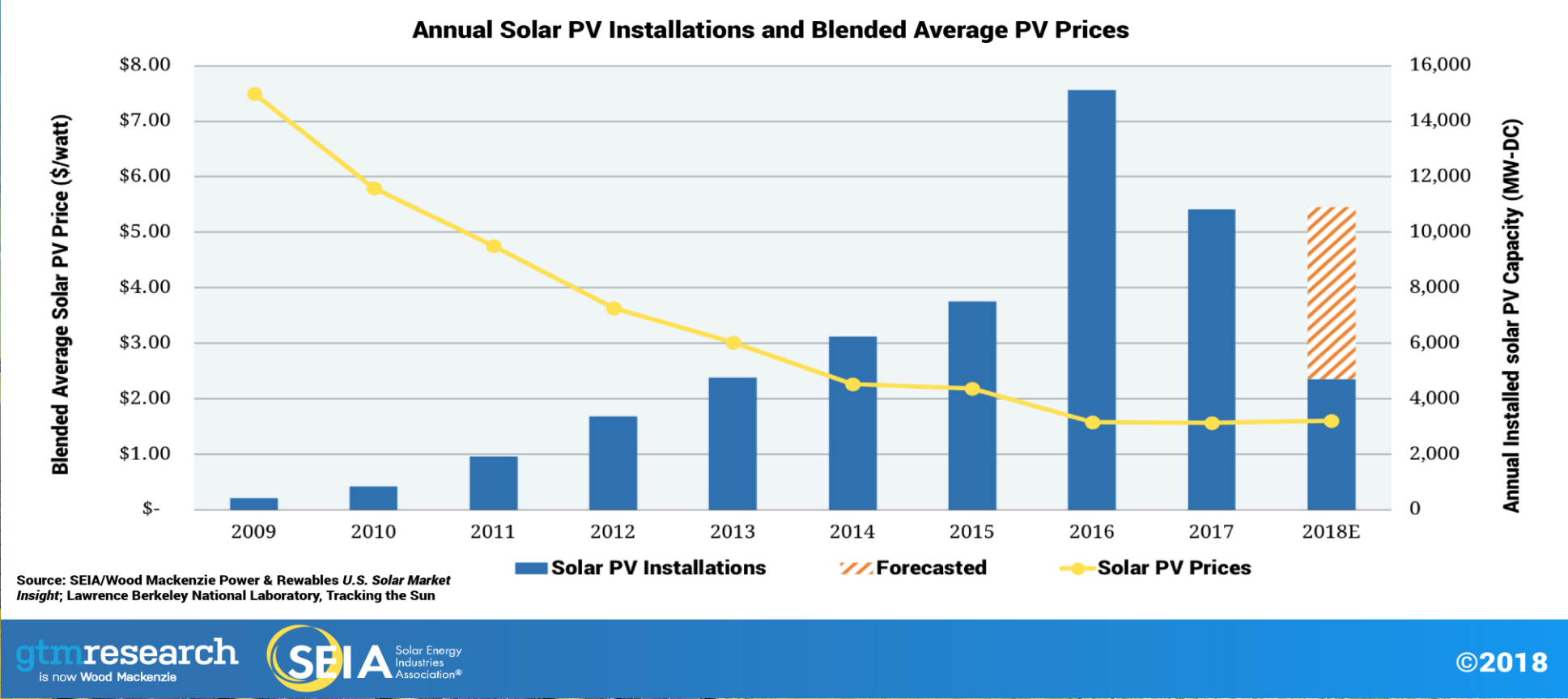
AVOIDED COST, RESOURCE PLANNING & ENERGY STORAGE *IN AN ERA OF LOW-COST SOLAR*

Presenters:

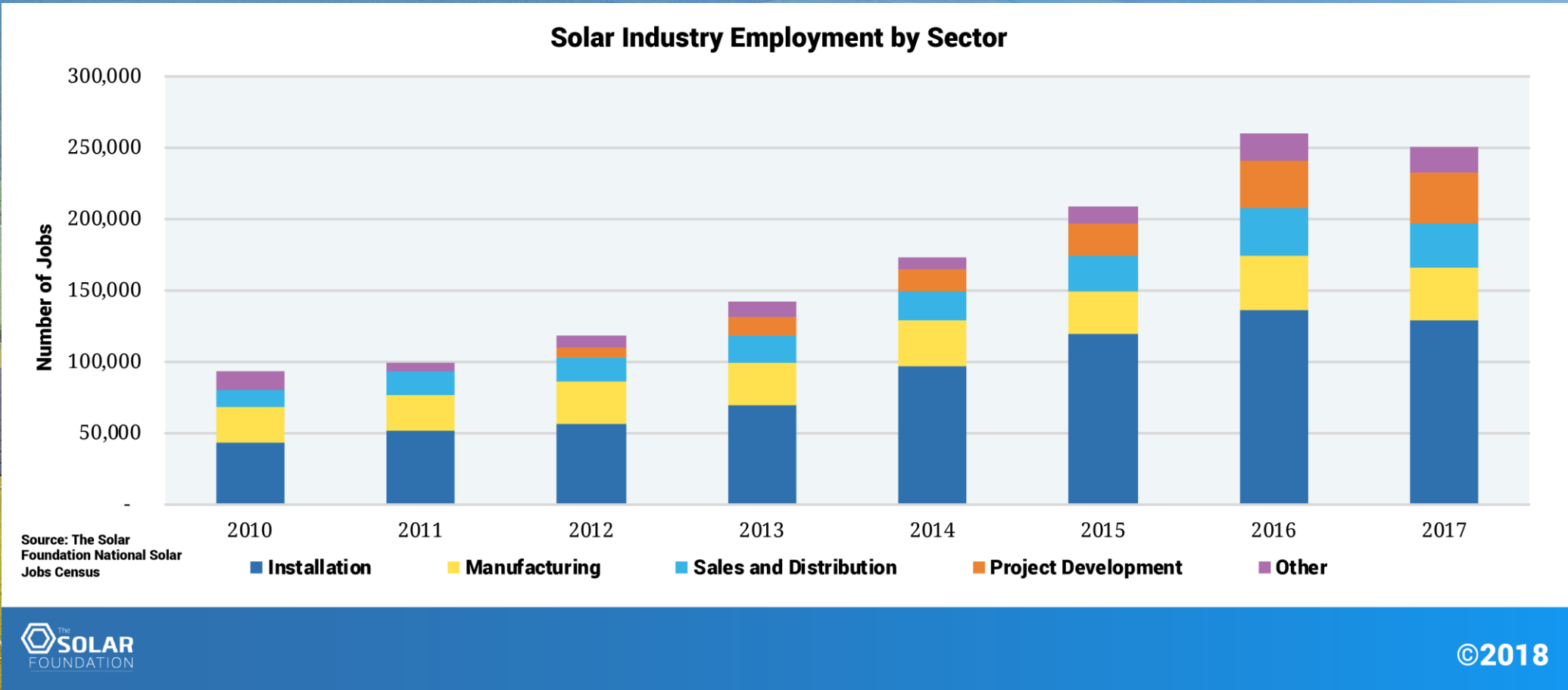
- Hamilton Davis – Southern Current – Director of Regulatory Affairs
- Steve Levitas – Cypress Creek Renewables – Senior Vice President of Regulatory Affairs & Strategy
- Ron DiFelice, Ph.D. – Energy Intelligence Partners – Managing Director



PRICE DECLINES, EXPONENTIAL GROWTH



SOLAR JOBS



ECONOMIC BENEFITS

POLICY, REGULATORY, TECHNICAL, AND LOCAL EXPERIENCE IN MULTIPLE STATE MARKETS

EXECUTED CONTRACTS (approx)	TOTAL PLANNED INVESTMENT (approx)	JOB WAGES (approx)	PROPERTY TAX REVENUE (approx)
1,050 MW	\$ 5 BILLION	\$750 MILLION	\$25 MILLION/YEAR





best practice noun

: a procedure that has been shown by research and experience to produce optimal results and that is established or proposed as a standard suitable for widespread adoption

COMPETITION

“What role does the PSC
serve regarding the
regulation of utilities?”

Senator Brad Hutto

“It’s essentially a substitute for a
competitive environment where you
have a natural monopoly. It
attempts to replicate the conditions
that a company in a competitive
market would face....”

Commissioner Elliot Elam

SUCCESS OF RETAIL CHOICE

ELECTRICITY PRICES IN MONOPOLY vs. RETAIL CHOICE STATES

Retail Energy Supply Association (RESA): “Weighted average prices in the group of 35 monopoly states have risen inexorably. By contrast, in the 14 competitive markets, commercial and industrial weighted average prices have trended significantly downward as residential prices have flattened.”

Figure 7: Residential Weighted Average Percentage Price Change, Choice vs. Monopoly States, 2008-2016

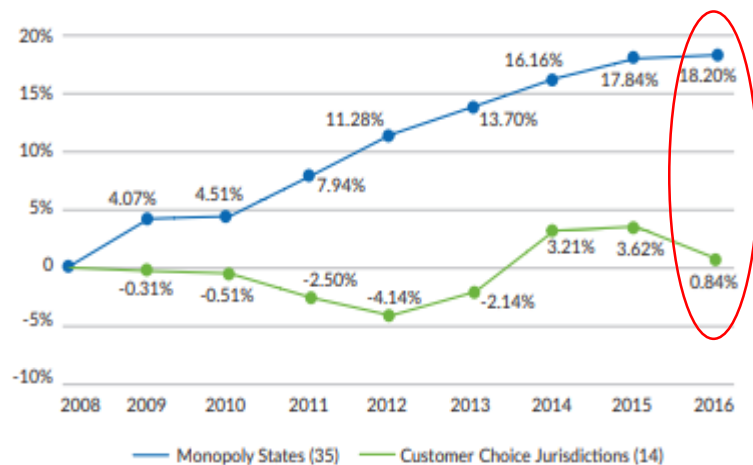


Figure 9: Industrial Weighted Average Percentage Price Change, Choice vs. Monopoly States, 2008-2016

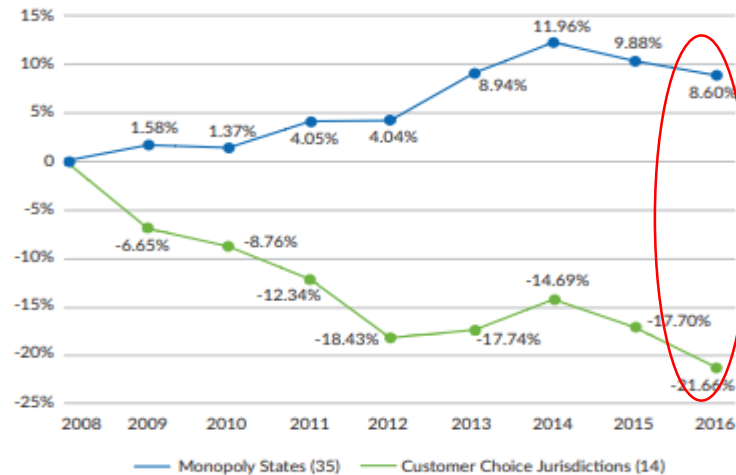
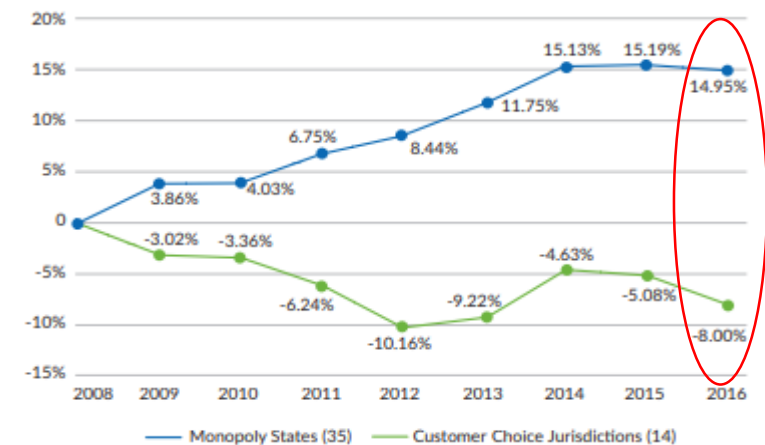
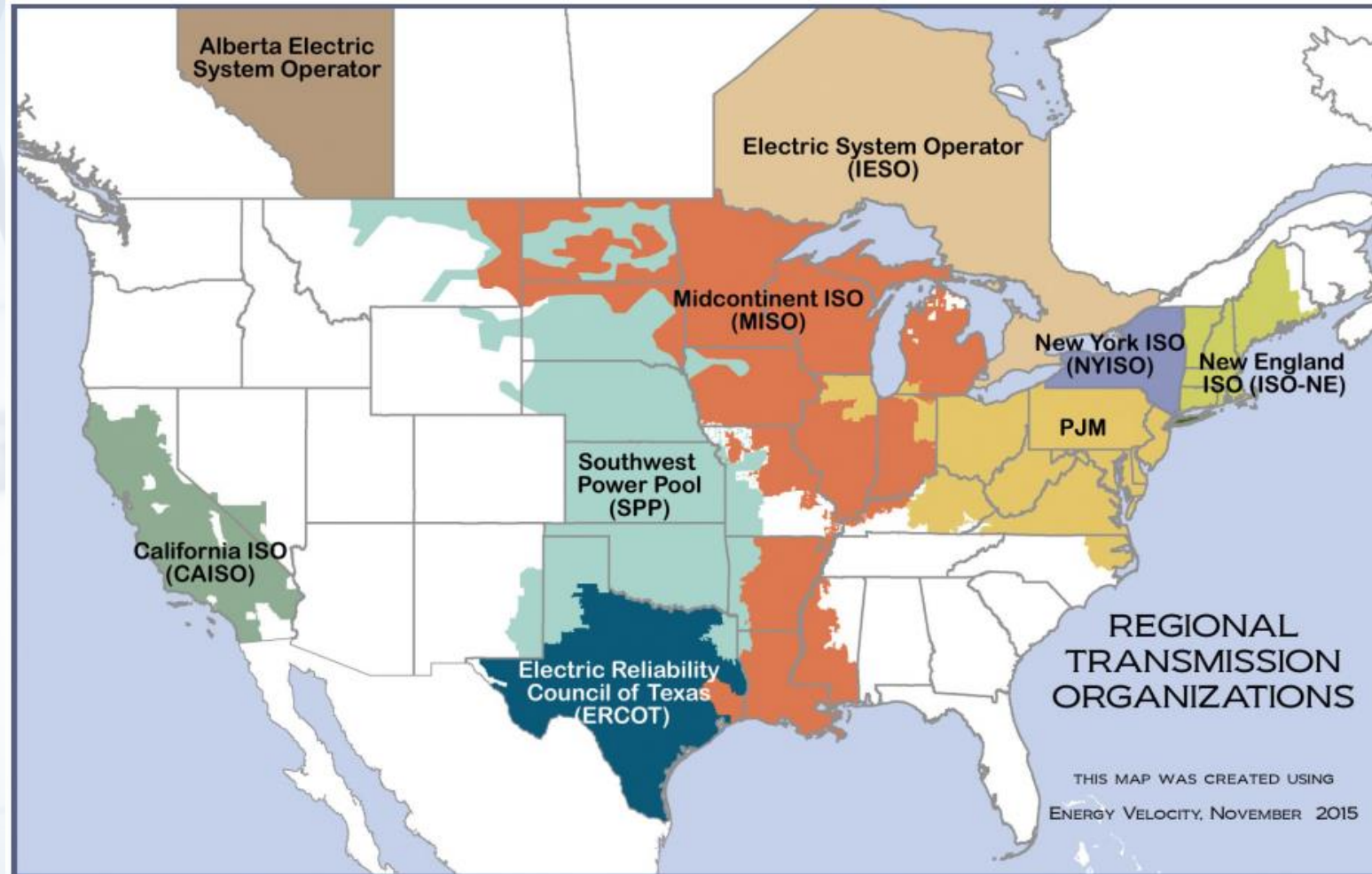


Figure 10: All-Sector Weighted Average Percentage Price Change, Choice vs. Monopoly States, 2008-2016

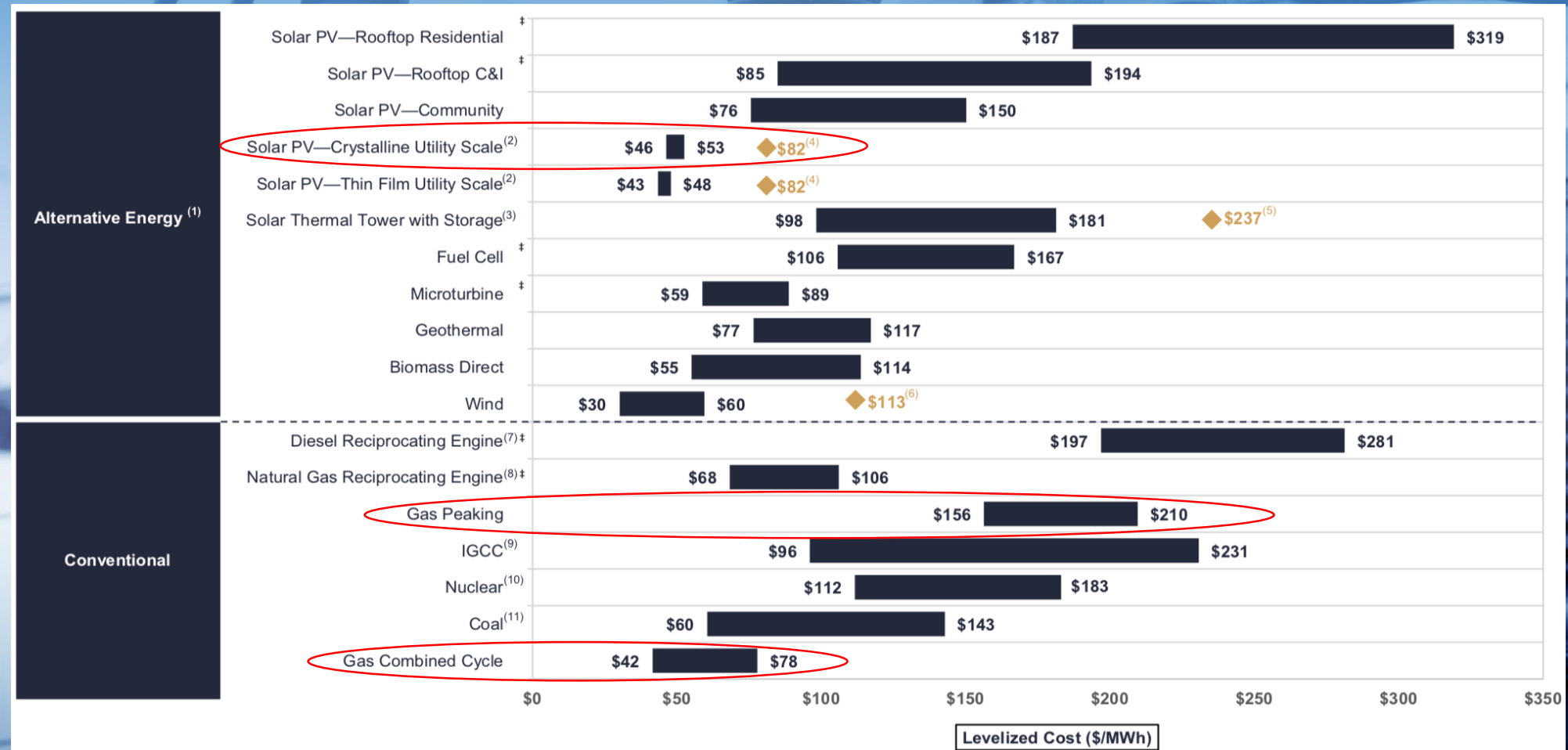


MAP OF RTO & ISOs

THERE ARE 7 ORGANIZED WHOLESALE MARKETS IN THE U.S.



LEVELIZED COST OF ENERGY UNSUBSIDIZED



CUSTOMER CHOICE

CORPORATE RENEWABLE ENERGY BUYERS' PRINCIPLES: INCREASING ACCESS TO RENEWABLE ENERGY

78 COMPANIES

69 MILLION MWH
OF DEMAND FOR
RENEWABLE ENERGY

\$7.8 TRILLION IN
MARKET CAP

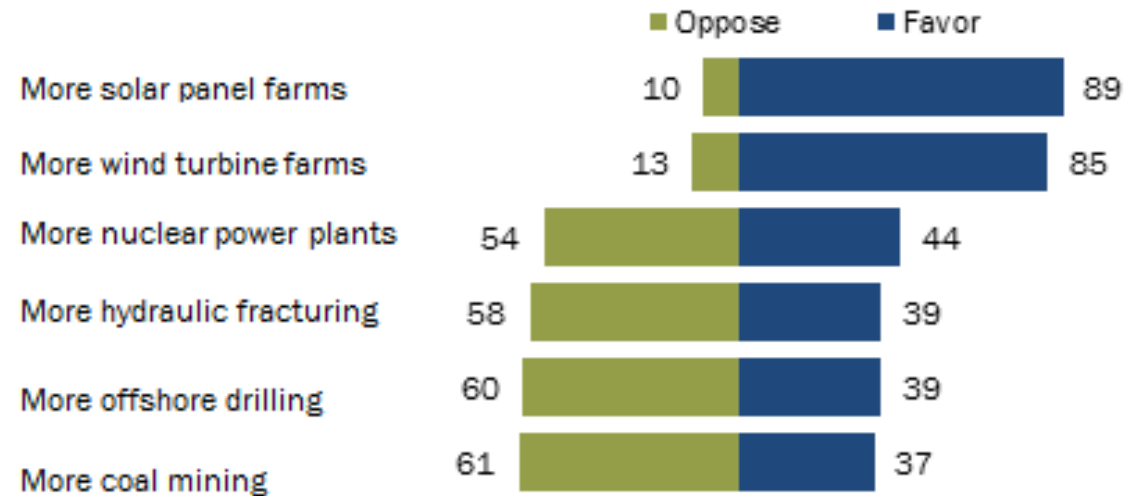


www.buyersprinciples.org

89% OF RESPONDENTS SUPPORT EXPANDING ACCESS TO SOLAR ENERGY

Strong public support for more solar and wind power

% of U.S. adults who say they favor expanding each energy source



Note: Respondents who did not give an answer are not shown.

Source: Survey conducted March 27-April 9, 2018.

"Majorities See Government Efforts to Protect the Environment as Insufficient"

PEW RESEARCH CENTER

PURPA

PUBLIC UTILITY REGULATORY POLICIES ACT OF 1978

The Goals

Competition in
monopsony markets

Reduced fossil fuel reliance

The Methods

Pricing at Avoided Cost

Fixed price contracts

Economically viable
contract lengths

Fair grid access

The Advantages

Competitive pressure on
monopoly utilities

Shift risk to IPPs

Rate stability

Clean Energy

REQUIREMENTS FOR MEANINGFUL QF MARKET ACCESS

- Properly calculated avoided cost rate
 - Long-term fixed price contracts
- Non-discriminatory interconnection access

DUKE RENEWABLE SOLAR PPA'S

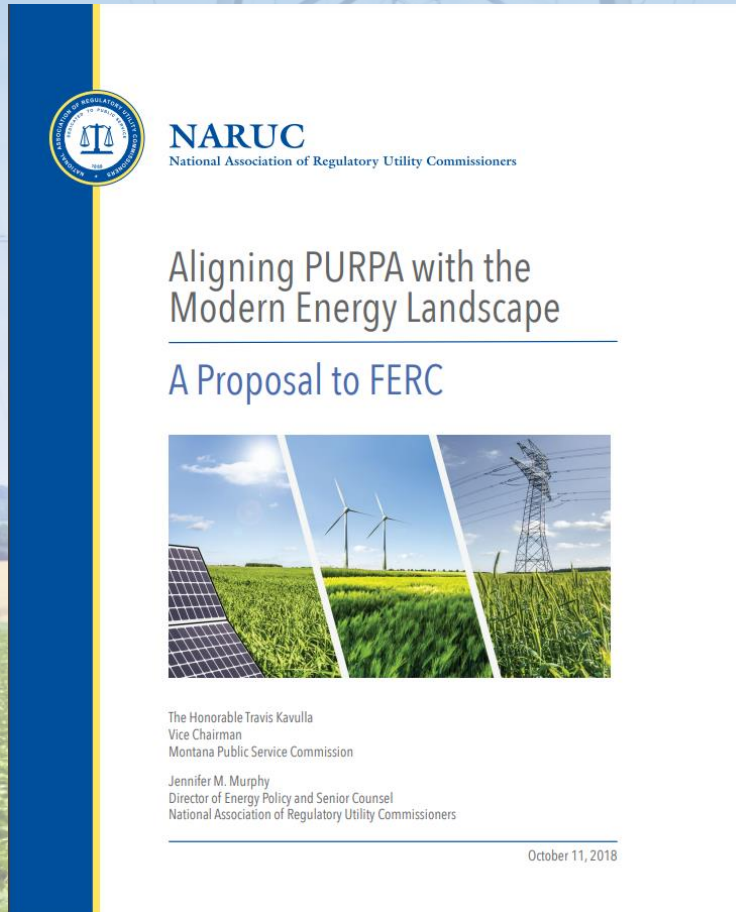
600 MW OF UTILITY-SCALE SOLAR PROJECTS WITH LONG-TERM PPA'S

Number of Projects	PPA Term
18 Projects	15 years
15 Projects	20 years
6 Projects	25 years
1 Project	30 years
3 Projects	Unconfirmed
Summary	
Average PPA Term	18.75 years
Minimum PPA Term	15 years

Source: Duke Solar Power Projects Fact Sheet. <https://www.duke-energy.com/media/pdfs/our-company/renewable-energy/solar-power-projects-fact-sheet.pdf>

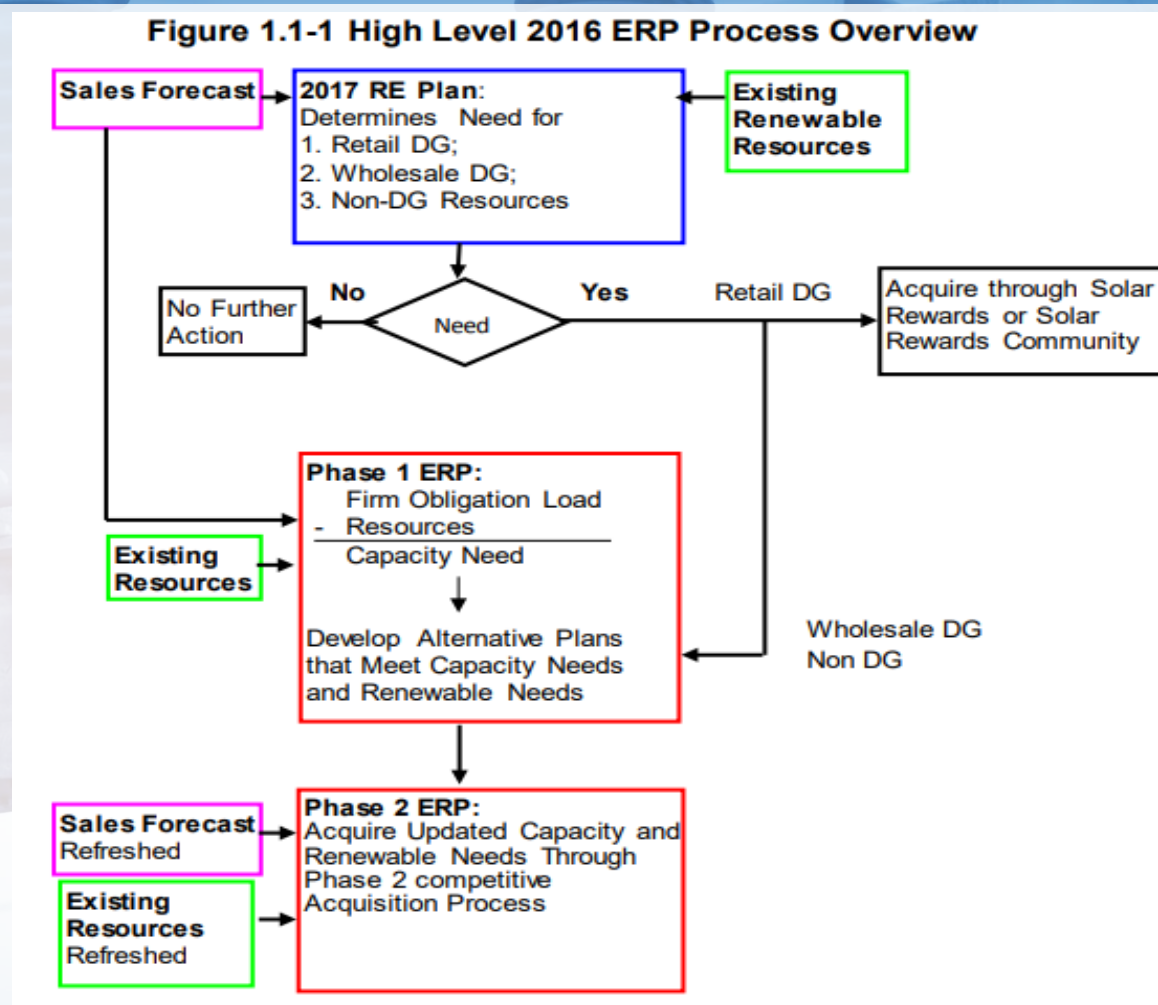
NARUC PROPOSAL

PUBLISHED 10/11/2018



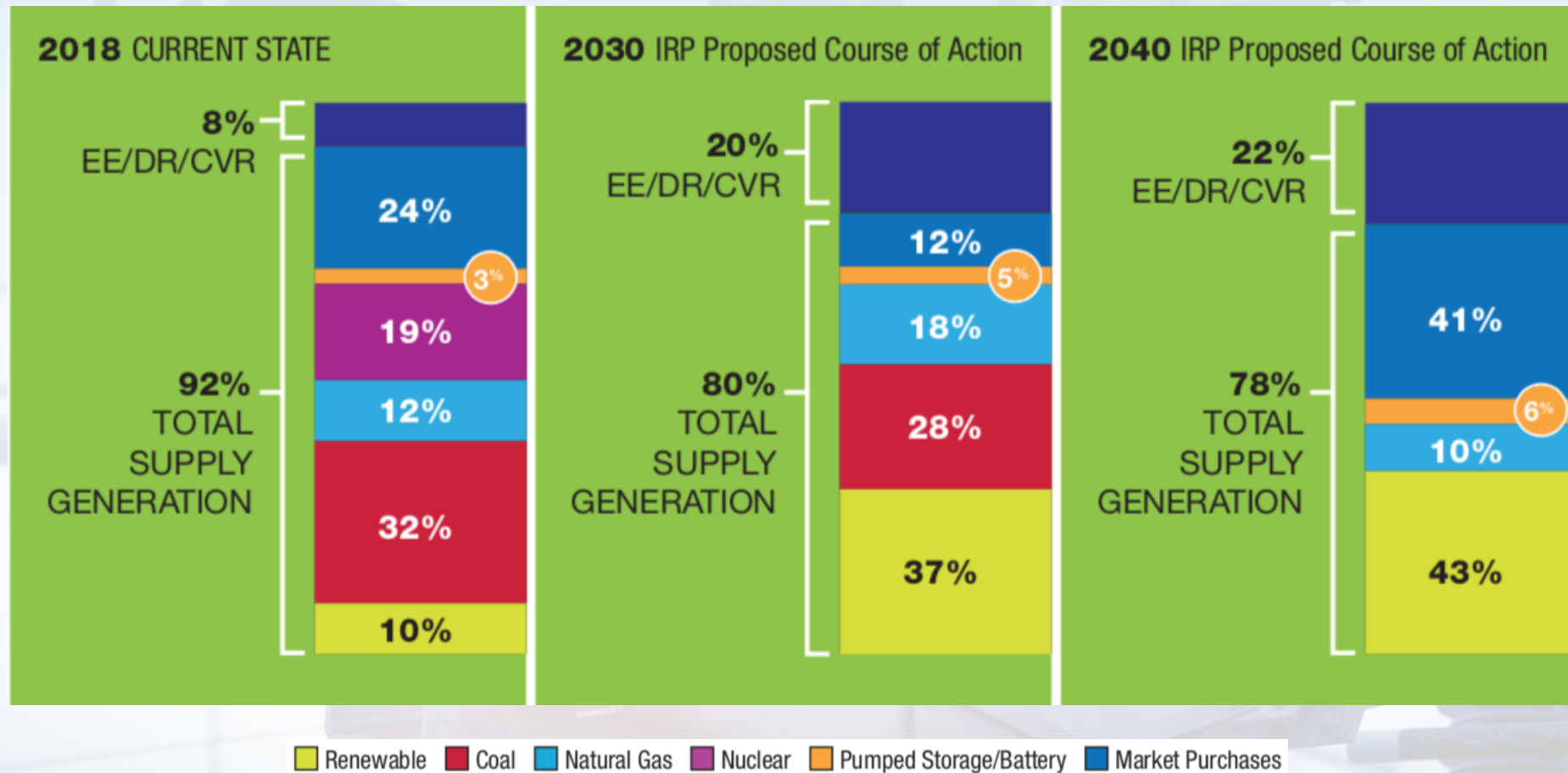
Xcel ENERGY (CO) ERP PROCESS

MULTI-PHASE PLANNING AND COMPETITIVE PROCUREMENT



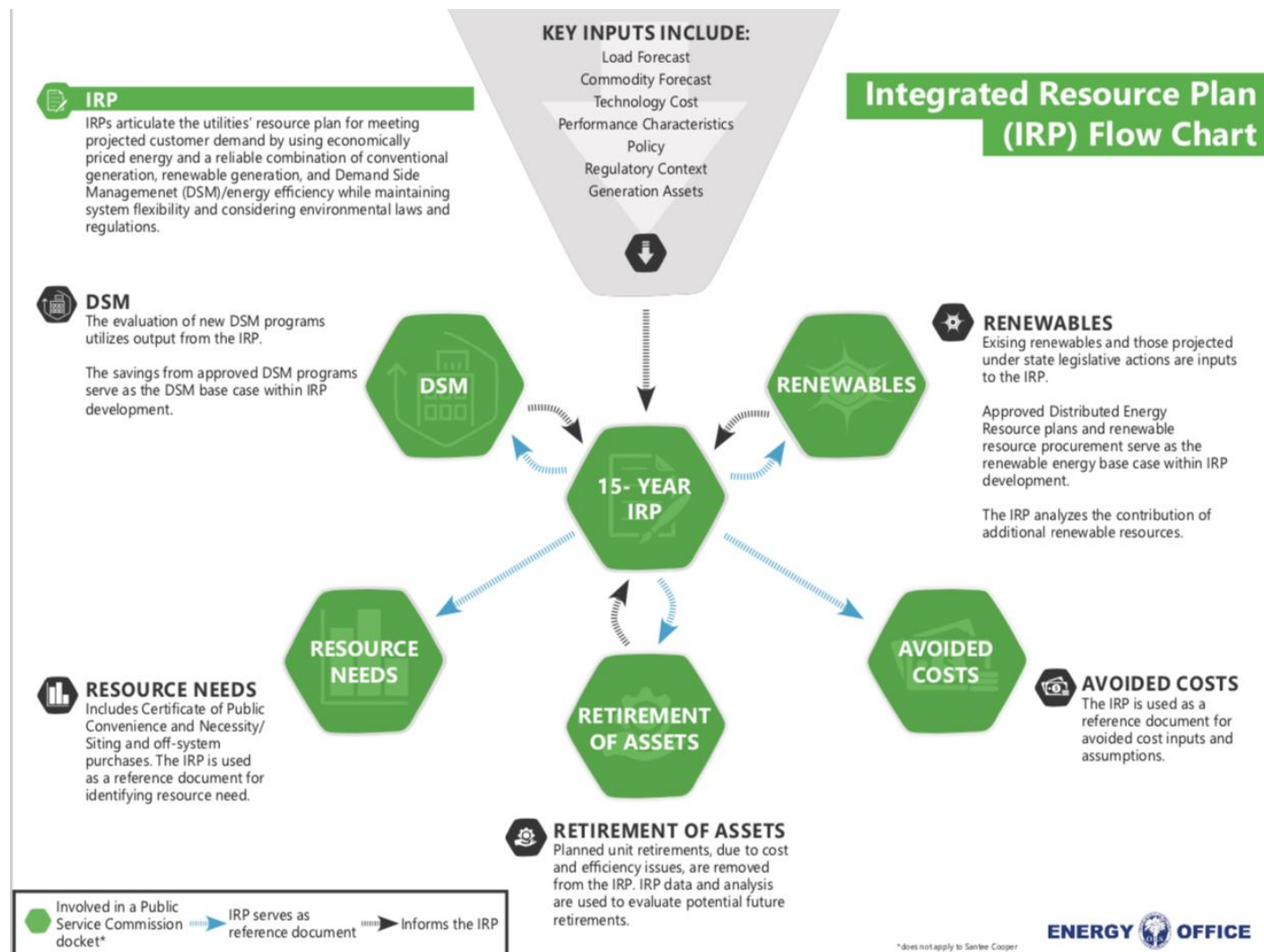
CONSUMERS ENERGY 2018

IRP CHARTS THE FUTURE OF ENERGY SUPPLY



SC STATE ENERGY PLAN

IRP BEST PRACTICES



INTERDEPENDENCE

Competition

IRP

PURPA

**Avoided
Costs**